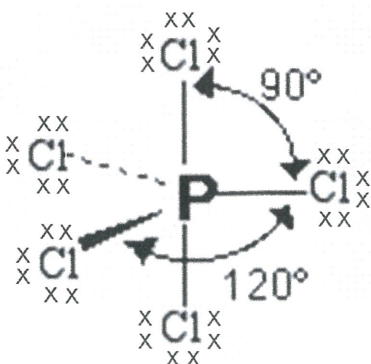


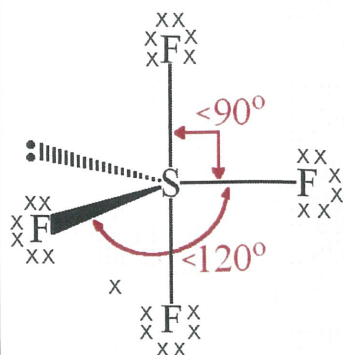
Trigonal Bipyramidal



- 5 regions of electron density around the central atom, which is phosphorus
- 5 bonding pairs of electrons around the central atom
- there are no lone pairs of electrons around the central atom
- the regions of electron density are arranged as far as possible from each other, in order to minimise repulsion, making a **TRIGONAL BIPYRAMIDAL** shape
- Angles of 90° and 120°
- eg's PCl_5 , AsF_5

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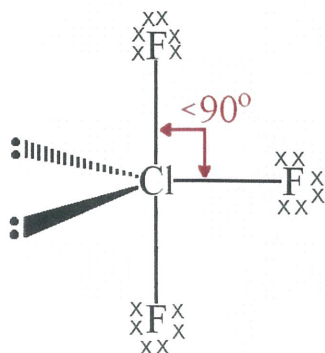
Trigonal Bipyramidal - Seesaw



- 5 regions of electron density around the central atom, which is sulfur
- 4 bonding pairs of electrons around the central atom
- there is one lone pair of electrons around the central atom
- the one lone pair of electrons take up space as if they were a bond, so the arrangement is trigonal bipyramidal, specifically with a seesaw shape
- Angles of 90° and 120°
- **TRIGONAL BIPYRAMIDAL - SEESAW** shape
- eg's SF_4 , SCl_4 , ClF_3

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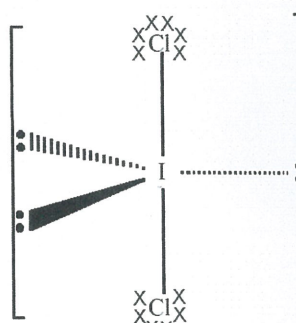
Trigonal Bipyramidal – T-shaped



- 5 regions of electron density around the central atom, which is chlorine
- 3 bonding pairs of electrons around the central atom
- there are two lone pairs of electrons around the central atom
- the lone pairs of electrons take up space as if they were a bond, so the arrangement is trigonal bipyramidal, specifically t-shaped
- Angles of 90°
- **TRIGONAL BIPYRAMIDAL - T-SHAPED**
- eg's ClF_3 , IF_3 , BrF_3

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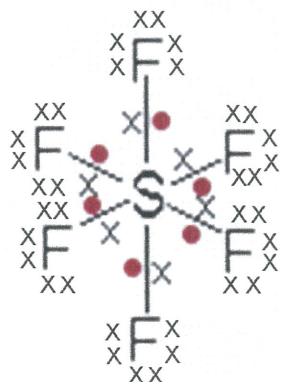
Trigonal Bipyramidal - Linear



- 5 regions of electron density around the central atom, which is iodine
- 2 bonding pairs of electrons around the central atom
- there are three lone pairs of electrons around the central atom
- the lone pairs of electrons take up space as if they were a bond, so the arrangement is trigonal bipyramidal, specifically linear
- Angles of 180°
- **TRIGONAL BIPYRAMIDAL - LINEAR**
- eg's $[ICl_2]^-$

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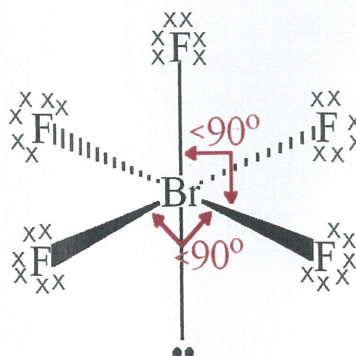
Octahedral



- 6 regions of electron density around the central atom, which is sulfur
- 6 bonding pairs of electrons around the central atom
- there are no lone pairs of electrons around the central atom
- the regions of electron density are arranged as far as possible from each other, in order to minimise repulsion, making an Octahedral shape
- all bond angles are 90°
- **OCTAHEDRAL** shape
- eg's SF_6 , PF_6^- , PCl_6^-

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Octahedral - Square pyramid



- 6 regions of electron density around the central atom, which is bromine
- 5 bonding pairs of electrons around the central atom
- there is one lone pair of electrons around the central atom
- the lone pairs of electrons take up space as if they were a bond, so the arrangement is octahedral, specifically square pyramid
- Angles of 90°
- **OCTAHEDRAL - SQUARE PYRAMID**
- eg's BrF_5 , IF_5

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